

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of )  
HESSE et al. ) BOX PCT  
)  
International Application )  
PCT/EP 03/06062 )  
)  
Filed: Unassigned )  
)

For: PREPARATION OF BUTANEDIOL

INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231  
Sir:

This subject information disclosure statement is submitted in connection with applicants' continuing duty of disclosure under 37 CFR 1.56.

Listing of Relevant Documents

The relevant documents are listed in the attached Form PTO-1449.

REMARKS

EP 322 140; U.S. 4,965,378; U.S. 5,072,009; EP 404 408; U.S. 5,149,836; are found in the specification on page 2.

WO 99/38856 is found in the specification on page 3.

EP 638 565 = U.S. 5,536,849 is found in the specification on page 3.

GB 1 168 220 is found in the specification on page 3.

DE 24 04 493 = U.S. 3,967,057 is found in the specification on page 3.

WO 91/16132; U.S. 6,297,389; WO 95/22539 is found in the specification on page 3.

WO 95/35136 = DW 96/058226 is found in the specification on page 4.

WO 97/24346 = U.S. 6,075,153 and U.S. 6,008,375 is found in the specification on page 4.

DE 12 77 233 = GB 1 059 598 is found in the specification on page 4.

GB 1 230 276 is found in the specification on page 4.

DE 22 31 986 = GB 1 344 557 is found in the specification on page 4.

DE 25 01 499 = GB 1 512 751 is found in the specification on page 4.

JO1121-228-A is found in the specification on page 4.

Dasunin, Maeva, Z.Org.chim. 1 (1965) No. 6, pages 996-1000 is found in the

specification on page 5.

JA 5366/69; JA 7 240770; J4 9024-906; J49087-610; U.S. 4,652,685; U.A. 4,406,004; U.S. 5,395,990; WO 82/03854; U.S. 4,797,382; U.S. 4,885,411; EP 318 129; U.S. 5,030,773 are found in the specification on page 5.

JP 634 567; WO 99/35113; WO 99/35114; WO 99/52845 are found in the specification on page 6.

EP 038 2050 = DW 90/248 023 is found in the specification on page 6.

DE 28 45 905 = U.S. 4,268,695 is found in the specification on page 6.

EP 373 947 is found in the specification on page 7.

CN-A 1 113 831-A = DW 97/416 221 is found in the specification on page 7.

CN-A 1 116 615-A = DW 97/449307 is found in the specification on page 7.

CN-A 1 138 018-A = DW 98/052938 is found in the specification on page 7.

CN-A 1047 328 = DW 91/23063 is found in the specification on page 7.

CN-A 137 944 = DW 98/052815 is found in the specification on page 7.

CN-A 1182 639 = DW 2002/406 026 is found in the specification on page 7.

CN-A 1182 732 = DW 2002/548770 is found in the specification on page 7.

DE 2 455 617 = U.S. 3,925,352 is found in the specification on page 7.

U.S. 4,301,077 is found in the specification on page 7.

DE 37 26510 = U.S. 4,940,805 is found in the specification on page 7.

JO 2025-434; EP 373 946; JO 2233-627; JO 2233-630; JO 2233-631; JO 2233-632; EP 431 923; U.S. 5,196,602 are found in the specification on page 8.

DE 240 4493 = U.S. 4,001,282 is found in the specification on page 9.

WO 97/43234 is found in the specification on page 9.

Journal of Catalysis 150, pages 177 to 185 (1994) is found in the specification on page 9.

WO 99/35139; U.S. 5,122,495 are found in the specification on page 9.

U.S. 5,196,602 and WO 97/43234 are listed in the international search report in category "A".

A copy of the international search report is attached.

Entry is respectfully solicited.

**10/517263**  
DTQ3 Rec'd PCT/PTO 07 DEC 2004

Respectfully submitted,

KEIL & WEINKAUF



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Sheet 1 of 6

Form PTO-1449

Document Number  
53622

Application Number

INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION

Applicant HESSE et al.

Filing Date

Group Art Unit

(Use several sheets if necessary)

U.S. PATENT DOCUMENTS						
Exam. Init.	Document Number	Date	Name	Class	Sub- Class	Filing Date
	4,965,378	10/23/90	Budge et al.			
	5,072,009	12/10/91	Budge et al.			
	5,149,836	9/22/92	DeThomas et al.			
	5,536,849	7/16/96	Bergfeld et al.			
	5,196,602	3/23/93	Budge et al.			
	3,967,057	6/29/76	Tsukamoto et al.			
FOREIGN PATENT DOCUMENTS						
	Document Number	Date	Country	Class	Sub- Class	Filing Date
	322 140	6/89	European			
	404 408	12/90	European			
	99/38856	8/99	PCT			
	638 565	2/95	European			
	97/43234	11/97	PCT			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
EXAMINER		DATE CONSIDERED				
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.						

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U.S. PATENT DOCUMENTS						
Exam. Init.	Document Number	Date	Name	Class	Sub- Class	Filing Date
	4,885,411	12/5/89	DeThomas et al.			
	5,030,773	7/9/91	Johnson et al			
	4,268,695	5/19/81	Lange et al.			
	3,925,352	12/9/75	Bojarska-Dahlig et al.			
	4,301,077	11/17/81	Pesa et al.			
	4,940,805	7/10/90	Fischer et al.			
FOREIGN PATENT DOCUMENTS						
	Document Number	Date	Country	Class	Sub- Class	Filing Date
	318 129	5/89	European			
	99/35113	7/99	PCT			
	82/03854	11/82	PCT			
	99/35114	7/99	PCT			
	99/52845	10/99	PCT			
	382 050	8/90	European			
	28 45 905	4/80	Germany			
	373 947	6/90	European			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
	Patent Absts.of Japan 634 567					
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U.S. PATENT DOCUMENTS						
Exam. Init.	Document Number	Date	Name	Class	Sub- Class	Fling Date
FOREIGN PATENT DOCUMENTS						
	Document Number	Date	Country	Class	Sub- Class	Fling Date
	1 512 751	1/75	UK			
	24 55 617	5/76	Germany			
	49-24906	3/74	Japan			
	49-87610	8/74	Japan			
	44-5366	3/44	Japan			
	47-40770	10/72	Japan			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
	Journal of Catalysis 150, 177-185(1994)Messori et al.					
	Patent Absts.Japan; 01-121228					
	Patent Absts. Japan; 02-233627					
	Patent Absts. Japan; 02-233630					
	Patent Absts. Japan; 02-233632					
	Patent Absts. Japan; 02-233631					
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FOREIGN PATENT DOCUMENTS						
	Document Number	Date	Country	Class	Sub- Class	Filing Date
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
	Substituted Lactones and their Transformation...					
	Dashunin et al., 1003-1006					
	Abst. EP 382-050					
	CN1113831 Derwent Abst.					
	CN1116615 Derwent Abst.					
	CN1138018 Derwent Abst.					
	CN 1047-328 Derwent Abst.					
	CN1137944 Derwent Abst.					
	CN1182639 Derwent Abst.					
	CN1182732 Derwent Abst.					
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